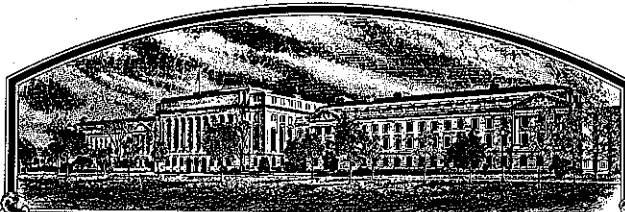


No.

9300245



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pioneer Hi-Bred International, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'9141'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of September in the year of our Lord one thousand nine hundred and ninety-five.

Attest:

Marsha A. Stanton

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Samuel J. Hittman

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Pioneer Hi-Bred International, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.	3. VARIETY NAME 9141
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 700 Capital Square 400 Locust Des Moines, IA 50309		5. PHONE (Include area code) (515) 270-3582	FOR OFFICIAL USE ONLY PVPO NUMBER 9300245 FILING Date June 16, 1993 Time 10:25 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M. FEES Filing and Examination Fee: \$ 2325.00 Date June 7, 1993 Certificate Fee: \$ 300.00 Date Sept. 5, 1995
6. GENUS AND SPECIES NAME Glycine max	7. FAMILY NAME (Botanical) Leguminosae		
8. CROP KIND NAME (Common Name) Soybean	9. DATE OF DETERMINATION September 1987		
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Iowa		12. DATE OF INCORPORATION 1926	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS			
John Grace 7301 NW 62nd Ave., P.O. Box 85 Johnston, IA 50131-0085		Mike Roth (copy) 700 Capital Square, 400 Locust Street Des Moines, IA 50309	

PHONE (Include area code):

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

a. ☒ Exhibit A, Origin and Breeding History of the Variety.

b. ☒ Exhibit B, Novelty Statement.

c. ☒ Exhibit C, Objective Description of Variety.

d. ☒ Exhibit D, Additional Description of Variety.

e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office **6/11/93**

g. ☒ Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)

☐ YES (If "YES," answer items 16 and 17 below) ☒ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____) ☒ NO


19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?

☐ YES (If "YES," give names of countries and dates) ☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT (Owner(s)) 	CAPACITY OR TITLE Soybean Research Manager	DATE 6/1/93
SIGNATURE OF APPLICANT (Owner(s))	CAPACITY OR TITLE	DATE

Pioneer Hi-Bred Int'l, Inc.
PVP Application 9141 Soybean
March 24, 1993

Exhibit A

ORIGIN AND BREEDING HISTORY

Breeding History of 9141 Soybean

- 1985 (Spring) A cross was made between '9061' and '9181' in a greenhouse at Pioneer's St. Joseph IL station. The stock number "3916" was assigned to identify the population created by this cross.
- 1985 (Summer) F1 plants from cross 3916 were grown in Cedar Falls, IA.
- 1985-86 (Winter) F2 and F3 populations derived from cross 3916 were grown using modified single seed descent in Kekaha, Hawaii.
- 1986 (Summer) Individual plant selections were pulled from the F4 population grown at Cedar Falls, IA.
- 1987 F4-derived F5 progeny rows were grown in Redwood Falls, MN. Progeny row no. 5639 was selected and designated "3916F50".
- 1988 3916F50 was tested in the preliminary yield trial "RFD11700" in Minnesota. Based upon superior yield performance, the line was advanced to regional advanced trials in 1989.
- 1989 3916F50 was tested in the 1989 advanced regional trial "RFA1B300" grown in Minnesota and South Dakota. Based on superior yield performance, 3916F50 was advanced to wide area testing in 1990. Purification was initiated by harvesting individual plants from a bulk of the line grown in Redwood Falls, MN.
- 1990 First year in wide area tests across the Northern U.S. and Ontario, Canada (designated "W3916F50"; experiments RFA10000, NPA10000 and CFA10000). Purification rows derived from the individual plants harvested in 1989 were grown and offtype sublimes discarded.
- 1991 Second year in wide area tests (designated "Y3916F50"; experiments RFA1E000, NPA1E000, and CFA1E00). A 5.0 acre purification block was grown from sublimes harvested in 1990. One hundred thirty-three sublimes were bulk harvested to form the original breeder seed lot.
- 1992 Third year in wide area testing (designated "XB13C"; experiments RFA1E000, NPA1E000, and CFA1E000). Pioneer's Parent Seed Department assumed responsibility for line maintenance.
- 1993 Based on superior yield performance, moderate iron-deficiency chlorosis tolerance in the North Central U.S. and multi-race Phytophthora resistance, the line was released as Pioneer Brand 9141.

Exhibit A

ORIGIN AND BREEDING HISTORY

Breeding History of 9141 Soybean (Continued)

Thus, variety 9141 has undergone four years of extensive testing and purification. It has been observed by the breeder to be uniform and stable for all plant traits from generation to generation, with no evidence of variants.

Five acres of 9141 (breeder's seed) were grown in 1991. Sixty-five acres of 9141 (foundation seed equivalent) were grown in 1992.

Pioneer Hi-Bred Int'l, Inc
PVP Application 9141 Soybean
March 24, 1993

EXHIBIT B: NOVELTY STATEMENT CONCERNING 9141 SOYBEAN

To our knowledge, variety 9141 is most similar to 9181 and S15-50. All are Group I varieties with purple flowers, gray pubescence, yellow hilum, brown pods, and possessing the Rps1c gene for Phytophthora resistance. However, 9141 matures an average of 5 days earlier than 9181 (Table 1). 9141 is significantly shorter in plant height than S15-50 (Table 2).

Other varieties of similar maturity and their differences:

Variety	Difference
9091	9141 is resistant to Phytophthora race 3, 9091 is not
9111	9141 is resistant to Phytophthora race 3, 9111 is not
9161	9141 is resistant to Phytophthora race 3, 9161 is not
A0949	9141 has purple flowers, A0949 has white flowers
A1179	9141 has purple flowers, A1179 has white flowers
A1525	9141 is resistant to Phytophthora race 3, A1525 is not
A1564	9141 is resistant to Phytophthora race 3, A1564 is not
AP10	9141 is resistant to Phytophthora race 3, AP10 is not
AP120	9141 is resistant to Phytophthora race 2, AP120 is not
AP1347	9141 has gray pubescence, AP1347 has tawny pubescence
AP1776	9141 has yellow hilum, AP1776 has buff hilum
Bert	9141 has yellow hilum, Bert has buff hilum
B117	9141 is resistant to Phytophthora race 3, B 117 is not
B152	9141 has brown pod color, B152 has tan pods
B 186	9141 has gray pubescence, B 186 has tawny pubescence
BSR101	9141 has brown pods, BSR101 has tan pods
Coles	9141 is resistant to Phytophthora race 3, Coles is not
Crusader	9141 is resistant to Phytophthora race 3, Crusader is not
CX117	9141 is resistant to Phytophthora race 3, CX117 is not
CX155	9141 is resistant to Phytophthora race 3, CX155 is not
CX187	9141 has gray pubescence, CX187 has tawny pubescence
Dassel	9141 is susceptible to Phytophthora race 4, Dassel is not
Dawson	9141 is resistant to Phytophthora race 3, Dawson is not
Disoy	9141 is resistant to Phytophthora race 3, Disoy is not
Dotson	9141 is resistant to Phytophthora race 3, Dotson is not
DSR-120	9141 is resistant to Phytophthora race 3, DSR-120 is not
DSR-128	9141 has yellow hilum, DSR-128 has buff hilum
DSR-135	9141 has gray pubescence, DSR-135 has tawny pubescence
DSR-141	9141 has gray pubescence, DSR-141 has tawny pubescence
DSR-155	9141 has yellow hilum, DSR-155 has imperfect black hilum
Dunn	9141 is resistant to Phytophthora race 1, Dunn is not
FFR 111	9141 is resistant to Phytophthora race 3, FFR 1111 is not
FFR 112	9141 has yellow hilum, FFR 112 has imperfect black hilum
Galaxy	9141 has yellow hilum color, Galaxy has black hilum
Hardin	9141 is resistant to Phytophthora race 3, Hardin is not
Hardin 91	9141 is susceptible to Phytophthora race 4, Hardin 91 is not

EXHIBIT B: NOVELTY STATEMENT CONCERNING 9141 SOYBEAN (continued)

Other varieties of similar maturity that are clearly distinct:

Variety	Difference
Hark	9141 is resistant to Phytophthora race 3, Hark is not
Haroson	9141 has a yellow hilum, Haroson has brown hilum
Hawkson	9141 has a yellow hilum, Hawkson has imperfect black
Hodgson	9141 has a yellow hilum, Hodgson has a buff hilum
Hodgson 78	9141 has a yellow hilum, Hodgson 78 has a buff hilum
J-108	9141 has yellow hilum, J-108 has buff hilum
J-112	9141 is resistant to Phytophthora race 3, J-112 is not
J-144	9141 has gray pubescence, J-144 has tawny pubescence
J-145	9141 has gray pubescence, J-145 has tawny pubescence
KG60	9141 is resistant to Phytophthora race 3, KG60 is not
KG70	9141 is resistant to Phytophthora race 3, KG70 is not
KG80	9141 has a dull seed coat, KG80 has a shiny seed coat
KG82	9141 has high peroxidase activity, KG82 has low activity
Kato	9141 has gray pubescence, Kato has tawny pubescence
L1771	9141 has gray pubescence, L1771 has tawny pubescence
Leslie	9141 has yellow hilum, Leslie has imperfect black hilum
Peterson 85	9141 is resistant to Phytophthora race 1, Peterson 85 is not
S1224	9141 has gray pubescence, S1224 has tawny pubescence
S1244	9141 has gray pubescence, S1244 has tawny pubescence
S1346	9141 is resistant to Phytophthora race 2, S1346 is not
S1460	9141 is resistant to Phytophthora race 3, S1460 is not
S1474	9141 is resistant to Phytophthora race 3, S1474 is not
S1884	9141 has purple flowers, S1884 has white flowers
S1990	9141 has gray pubescence, S1990 has tawny pubescence
Sibley	9141 has purple flowers, Sibley has white flowers
SRF 101	9141 is resistant to Phytophthora race 3, SRF 101 is not
SRF 150	9141 is resistant to Phytophthora race 3, SRF 150 is not
SRF 199P	9141 has a yellow hilum, SRF 199P has an imperfect black hilum
Steele	9141 is resistant to Phytophthora race 3, Steele is not
TC137	9141 has purple flowers, TC137 has white flowers
Vinton	9141 is resistant to Phytophthora race 3, Vinton is not
Vinton 81	9141 has significantly smaller seeds than Vinton 81
Weber	9141 has purple flowers, Weber has white flowers
Weber 84	9141 has purple flowers, Weber 84 has white flowers

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Pioneer Hi-Bred International, Inc.	TEMPORARY DESIGNATION	VARIETY NAME 9141
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 700 Capital Square 400 Locust Des Moines, IA 50309		FOR OFFICIAL USE ONLY PVPO NUMBER 9300245

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow 2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low 2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a) 2 = Type B (SP1^b)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify) _____

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 11 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 2

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 2

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 1

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 21 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☐ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

☐ 4

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★ ☐ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)★ ☐ 1Bacterial Blight (*Pseudomonas glycinea*)★ ☐ 0Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★ ☐ 1Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojae*)★ ☐ 0

Race 1

☐ 0

Race 2

☐ 0

Race 3

☐ 0

Race 4

☐ 0

Race 5

☐

Other (Specify)

☐ 0Target Spot (*Corynespora cassiicola*)☐ 1Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)★ ☐ 1Brown Stem Rot (*Cephalosporium gregatum*)☐ 0Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 1 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 1 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 1 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 2 Race 1 ☐ 2 Race 2 ☐ 2 Race 3 ☐ 1 Race 4 ☐ 1 Race 5 ☐ 0 Race 6 ☐ 2 Race 7
- ☐ 2 Race 8 ☐ 2 Race 9 ☐ 2 Other (Specify) Races 10, 13, 17

VIRAL DISEASES:

- ☐ 1 Bud Blight (Tobacco Ringspot Virus)
- ☐ 1 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 1 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 1 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 1 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 1 Race 3 ☐ 0 Race 4 ☐ Other (Specify) _____
- ☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ 1 OTHER DISEASE NOT ON FORM (Specify): White Mold (*Sclerotinia sclerotiorum*)

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 1 Iron Chlorosis on Calcareous Soil
- ☐ 2 Other (Specify) Metribuzin sensitivity

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	9181	Seed Coat Luster	9181
Leaf Shape	9181	Seed Size	9162
Leaf Color	9111	Seed Shape	9232
Leaf Size	9061	Seedling Pigmentation	9131

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
9141 Submitted	133.7	2.3	71	-	-	42.4	20.2	18	-
9181 Name of Similar Variety	138.8	2.0	67	-	-	41.8	20.4	20	-

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBT1-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

Table 1. Variety 9141 vs variety 9181 for maturity.

9300245

Observations are from data taken from research plots. Plots were planted using a randomized complete block design. Planted plot length was 21 feet, trimmed to 15 feet. Plot width was four 30 inch rows, or ten feet. Maturity was recorded as the number of days after planting until 95% of the pods had turned brown. Data is presented for the years indicated.

1989

REP	9141 X1	9181 X2	X1-X2	(X1-X2)**2
-----	------------	------------	-------	------------

1	132	133	-1	1
2	123	128.5	-5.5	30.25

SD**2= (31.25 - 6.5**2)/2) / (2*1)
 SD**2= 5.0625
 SD= 2.25
 t = 3.25 / 2.25
 t = -1.4444
 DF= 1

n groups of individuals = 2

sum	255	261.5	-6.5	31.25
ave	127.5	130.8	-3.25	

ave mat of 9141 = 127.5 days
 ave mat of 9181 = 130.8 days

1992

REP	9141 X1	9181 X2	X1-X2	(X1-X2)**2
-----	------------	------------	-------	------------

1	138	143	-5	25
2	141	148	-7	49
3	135	141	-6	36
4	133	139	-6	36

SD**2= (146 - (24**2)/6) / (6*5)
 SD**2= 1.66667
 SD= 1.29099
 t = 6 / 1.29099
 t = 4.64758 ** significant .05 level
 DF= 5

n groups of individuals = 6

sum	547	571	-24	146
ave	136.8	142.8	-6	

ave mat of 9141 = 136.8 days
 ave mat of 9181 = 142.8 days

OVERALL

REP	9141 X1	9181 X2	X1-X2	(X1-X2)**2
-----	------------	------------	-------	------------

1	132	133	-1	1
2	123	128.5	-5.5	30.25
3	138	143	-5	25
4	141	148	-7	49
5	135	141	-6	36
6	133	139	-6	36

SD**2= (177.25 - (30.5**2)/6) / (6*5)
 SD**2= 0.74028
 SD= 0.86039
 t = 5.08 / 0.86039
 t = -5.9081 ** significant .01 level
 DF= 5

n groups of individuals = 6

sum	802	832.5	-30.5	177.25
ave	133.7	138.8	-5.08	

ave mat of 9141 = 133.7 days
 ave mat of 9181 = 138.8 days

Table 2. Variety 9141 vs variety S1550 for height in centimeters.

9300245

Observations are from data taken from research plots. Plots were planted using a randomized complete block design. Planted plot length was 21 feet, trimmed to 15 feet. Plot width was four 30 inch rows, or ten feet. Height was measured as the average distance from the ground to the top pod of representative plants in the plot.

1991

REP	9141 X1	S1550 X2	X1-X2	(X1-X2)**2
1	78.8	100.3	-21.5	462.25
2	92.2	120.1	-27.9	778.41
3	77	104.1	-27.1	734.41

SD**2= $(1975.07 - (76.5**2)/3) / (3*2)$
SD**2= 4.05333
SD= 2.01329
t = $25.5 / 2.01329$
t = -12.666 ** significant .01 level
DF= 2

n groups of individuals = 3

sum 248 324.5 -76.5 1975.07
ave 82.67 108.2 -25.5

ave height of 9141 = 82.7 cm
ave height of S1550 = 108.2 cm

1992

REP	9141 X1	S1550 X2	X1-X2	(X1-X2)**2
1	88.9	111.8	-22.9	524.41
2	73.7	93.9	-20.2	408.04
3	88.9	106.7	-17.8	316.84
4	91.4	96.5	-5.1	26.01

SD**2= $(1275.3 - (66**2)/4) / (4*3)$
SD**2= 15.525
SD= 3.94018
t = $16.5 / 3.94018$
t = -4.1876 * significant .05 level
DF= 3

n groups of individuals = 4

sum 342.9 408.9 -66 1275.3
ave 85.73 102.2 -16.5

ave height of 9141 = 85.7 cm
ave height of S1550 = 102.2 cm

OVERALL

REP	9141 X1	S1550 X2	X1-X2	(X1-X2)**2
1	78.8	100.3	-21.5	462.25
2	92.2	120.1	-27.9	778.41
3	77	104.1	-27.1	734.41
4	88.9	111.8	-22.9	524.41
5	73.7	93.9	-20.2	408.04
6	88.9	106.7	-17.8	316.84
7	91.4	96.5	-5.1	26.01

SD**2= $(3250.37 - (143**2)/7) / (7*6)$
SD**2= 8.32088
SD= 2.88459
t = $20.4 / 2.88459$
t = -7.0572 ** significant .01 level
DF= 6

n groups of individuals = 7

sum 590.9 733.4 -143 3250.37
ave 84.41 104.8 -20.4

ave height of 9141 = 84.4 cm
ave height of S1550 = 104.8 cm

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Pioneer Hi-Bred Int'l, Inc
 PVP Application 9141 Soybean
 March 24, 1993

Exhibit D: In Exhibit C we have identified 9141 as susceptible to bacterial blight, brown spot, pod and stem blight, rhizoctonia root rot, bud blight, yellow mosaic, cowpea mosaic, pod mottle, seed mottle, and iron chlorosis. This does not mean that 9141 is any worse for these problems than other varieties of similar maturity. Rather, we do not consider 9141 to be immune to them. Therefore, we have chosen to be conservative and have identified the line as 'susceptible'.

Table 1. Isozyme information for 9141

<u>ACO2</u>	<u>ACO3</u>	<u>ACO4</u>	<u>ACP</u>	<u>DIA</u>	<u>ENP</u>	<u>IDH1</u>	<u>IDH2</u>	<u>MDH</u>	<u>MPI</u>	<u>PGM</u>	<u>PHI</u>
2	1	1	A	B	A	1	2	A	A	1	2

9141 is a mid group I variety. If group I maturities are divided in tenths, the relative maturity for 9141 is 1.4.

Exhibit E: Variety 9141 was developed by Pioneer Hi-Bred International, Inc., for which it solicits a certificate of protection.